

Appl. No. 10/594,186
Amdt. dated 05/07/2008
Reply to Office action of 02/07/2008

Amendments to the Drawings:

The attached sheets of drawings include new Drawings 12 -15.

Attachment: New Sheets (2)

REMARKS/ARGUMENTS

Claims 5-24 are pending in the application. Claims 5-8, 10-21, 23 and 24 were rejected under 35 USC §102(b); claims 5-8, 11, 12, 16-21 and 23 were rejected under 35 USC §102(e); and claims 9, 10, 13-15, 22 and 24 were rejected under 35 USC §103(a). Claims 5, 8, 13 and 16 have been amended to more distinctly define the invention and distinguish over the cited art. The rejections are respectfully traversed in view of the amendments and for the reasons set forth below.

The invention is a surgical clip having a novel laterally curved design which provides several advantages over the straight (or longitudinally curved) clips known in the prior art, namely, it permits a surgeon to either fully or partially occlude a vessel depending upon the angle at which the clip is applied to the vessel, it affords the surgeon a clear view of the entire extension of the clip, and it keeps the locking mechanism clear of the area being clipped.

1. Drawings

The drawings were objected to under 37 C.F.R. 1.83(a) as not showing every feature of the invention specified in the claims. New drawings 12 - 15, submitted herewith, show alternative embodiments of the invention, namely (i) a surgical clip having teeth which are longitudinal on each leg and (ii) a surgical clip having a longitudinal ridge on the inner surface of one leg and a complementary longitudinal recess on the inner surface of the other leg. Support for these new figures is found in paragraphs [0011] and [0018] of the specification and in claims 9, 13, 22 and 24. No new matter has been added.

2. Rejections – 35 USC §102

Claims 5, 6, 10-19, 23 and 24 were rejected under 35 U.S.C. §102(b) as being anticipated by Machado, US 694,934. Machado fails to disclose each and every element of the claims and accordingly this rejection is traversed.

First, contrary to the statement on page 3 of the Office Action, Machado does not disclose a surgical clip. Machado discloses a hair clasp, an ornamental beauty product "to retain a lady's hair in place" and "secure hair-ornaments to the hair." (col. 1, lines 9-10). This is an entirely non-analogous art, and any apparent resemblance

between the hair clamp of Machado and the surgical clip of the invention is purely superficial. The clamp of Machado would never be suitable for stanching a blood vessel; its legs are very wide, not suitable for surgical application and having no features for vessel gripping or occlusion.

Second, there is no suggestion that the clamp of Machado is made of polymer material. The reference made by the examiner (page 1, column 2, lines 95-100) refers not to the material used for the body of the clamp but rather to "strips 1 of friction-producing material such as rubber, cloth, felt, or other analogous material..." which are attached to the body 2 of the clamp. Indeed, in 1900 when Machado's application was filed it would not have been known to make the hair clamp of a polymer material.

Third, Machado does not disclose a longitudinal ridge on the inner surface of one leg and a longitudinal recess on the inner surface of the other leg, the ridge being adapted to fit into the recess when the clip is in the closed position. Strip 1 of Machado is, as mentioned above, a separate strip of friction-producing material such as rubber. When the hair clamp is closed, strip 1 clamps the hair against a flat metal leg of the hair clamp or comb. A groove 3 may be provided in which strip 1 is cemented, but even if strip 1 were a ridge, there is no mention of a complementary recess into which strip 1 fits when the hair clamp is closed.

Claims 5-8, 11, 12, 16-21 and 23 were rejected under 35 U.S.C. §102(b) as being anticipated by Laugherty et al, US 3,854,482. Laugherty et al fail to disclose each and every element of the claims and accordingly this rejection is traversed.

Laugherty et al disclose an umbilical cord clamp, but there is no written description or drawing in Laugherty et al describing or illustrating the clamp as "curved." Indeed, the clamp is referred to as a "V- shaped" device (e.g., col. 2, line 15), and a "V-shaped" device has straight legs. Figure 1 clearly shows that the arms 1 and 2 of the clamp are straight, not curved. It is true that the arms are semi-rigid so that they bow slightly when clamped about a cord as shown in Fig. 2, but they are not laterally curved as claimed.

The novelty of the present invention and its concomitant advantages lie in the "lateral curvature" of the clip, leading to improvements in surgical performance never before available in the market and not provided by the clamp of Laugherty et al.

Claims 5-8, 11, 12, 16-21 and 23 were rejected under 35 U.S.C §102(e) as being anticipated by Wilson, Jr., US 6,863,675. Wilson fails to disclose each and every element of the claims and accordingly this rejection is traversed. This patent is believed to relate to a product commercially known as "Hem'o'lok" or "Weck clip." Despite being described as a "penetrating curved clip" it is not *laterally* curved but rather *longitudinally* curved, and thus exhibits limitations in surgical performance when compared with the "laterally curved" clip of the present invention. The meaning of the term "laterally curved," and the advantages of this novel configuration, are evident from the specification and drawings, particular when compared to the clip of Wilson. For example, compare Drawing 3 of the present application with Figure 5 of Wilson. As a result of its lack of lateral curvature, Wilson's clip is not able, for instance, to partially clip a large vessel which is bleeding due to an injury and obviously should not be completely occluded, and this lack of performance could never be dealt by just turning it to the right or the left (as seemingly suggested by the examiner's understanding of "laterally curved"). This limitation of Wilson's clip can be explained because it is not laterally curved, but bearing curved legs in a concave-convex way, while along its longitudinal axis it has a straight orientation or configuration. In contrast, the claimed "laterally curved clip" bears laterally curved legs which, when in a closed position, do not maintain a concave-convex arrangement. If one attempts to partially clip a large vessel using a Wilson clip, this definitely would cause a vessel injury due to the tearing effect of the locking mechanism on the vessel wall, because being straight (the curvature and locking mechanism are at the same axis) the surgeon cannot keep the locking tip out of the clipped area.

Another great advantage of the surgical clip of the present invention lies in that fact of it being laterally curved, so that the surgeon will have a complete visualization of the clip's tip during its handling and use, thus avoiding unexpected or undesirable events, such as clipping structures other than the desired one.

Finally, as to claims 19-24, none of the cited references teach or suggest the limitation of the metal clip being lockable in the closed position by deformation of the clip from the open position by applying sufficient force to press the inner surfaces of the legs together.

3. Rejections – 35 USC §103

Claims 9 and 22 were rejected under 35 USC 103(a) as being unpatentable over Laugherty. As explained above, Laugherty does not disclose a curved clip and cannot render claims 9 and 22 obvious.

Claims 9, 10, 13-15, 22 and 24 were rejected under 35 USC 103(a) as being unpatentable over Wilson, Jr. As discussed above, Wilson teaches a longitudinally curved clip, not a laterally curved clip, and cannot render these claims obvious.

CONCLUSION

None of the cited references teach or suggest a laterally-curved surgical clip as claimed. Accordingly, applicant requests that the rejections be withdrawn and that the application proceed to allowance.

Respectfully submitted,



Eric H. Weimers
Reg. No. 33,048
Tel.: (312) 214-7770
Attorney for Applicants

Date: May 7, 2008

RYNDAK & SURI LLP
200 West Madison Street, Suite 26100
Chicago, IL 60606
(312) 214-7770

Attachments